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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/770,890	01/26/2001	Diakoumis Parissis Gerakoulis	03493.00043	6634

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EXAMINER	
NGUYEN, STEVEN H D	
ART UNIT	**PAPER NUMBER**
2616	

DATE MAILED: 08/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/770,890	GERAKOULIS, DIAKOUMIS PARISSIS	
	Examiner	Art Unit	
	Steven HD Nguyen	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *32-48 and 53-56* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *32-48, 53-56* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 32-35 and 38-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Gilhousen (USP 5309474).

Regarding claims 32, 38 and 40, Gilhousen discloses a method and system for spreading a transmission signal by a PN-code assigned to an intended receiving Port (Fig 11, Ref 614 and 616 for transmitting spreading signal to a base station wherein these PN are assigned to the users and base station in order to allow the base station despreading the received signal); inserting an identifier of a few bits for identifying a user (Fig 11, Ref 608 for inserting mobile address); spreading payload data by an orthogonal code (Fig 11, Ref 604); spreading the orthogonal spread payload data signal by the PN-code (Fig 11, Ref 606); and forwarding said PN-code spread transmission signal and said twice spread payload data signal to an access radio port (Fig 11, Ref 610 and 612 for transmitting the spreading signal to the base station and BSC).

Regarding claims 33 and 39, Gilhousen discloses a CDMA network (Fig 1).

Regarding claims 34 and 41, Gilhousen discloses orthogonal code is a walsh code (Fig 11, Ref 604).

Regarding claims 35 and 42, Gilhousen discloses forming a preamble which is prepended to a packet (col. 36, lines 35-46).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 36 is are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerakoulis (IEEE) in view of Erving (USP 5805579).

Gerakoulis discloses the method and system for transmitting/receiving CDMA at satellite/terrestrial system between the users, base stations and wireline network having a access port. However, Gerakoulis fails to disclose a method and system for downconverting a received transmission signal to an IF, despreading the IF transmission signal by orthogonal code that assigned the recover microport groupings and route the microport grouping accordingly, directing the transmission signal within the same access node according to the orthogonal code assignment. In the same field of endeavor, Erving discloses a method and system for downconverting a received transmission signal to an IF (Fig 1, Ref 201), despreading the IF transmission signal by orthogonal code that assigned the recover microport groupings and route the microport grouping accordingly, directing the transmission signal within the same access node according to the orthogonal code assignment (Col. 1, line 64 to col. 2, line 18).

Since, Gerakoulis suggests that the application CDMA can be applied to satellite and terrestrial networks. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply the steps as disclosed by Erving into the teaching of

Gerakoulis. The motivation would have been to provide a high signal strength is higher, data transmission rates, low the costs of sending data messages and equipment.

5. Claims 37 and 43-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Focarile (USP 5434854) in view of McTiffin (USP 5406550) and Natali (USP 5910777).

Regarding claims 37 and 43-47, Focarile discloses a method and system for performing the steps at originating access port of a terrestrial wireless network by downconverting a received transmission signal to an IF (Fig 1, Ref 14), despreading the IF transmission signal by code that assigned the recover microport groupings and route the microport grouping accordingly via ATM network (Fig 1, implicitly discloses this feature in the CDMA system, See col. 8, lines 10-62). However, Focarile fails to disclose translating the code assignments to a packet address identifying a destination microport augmented to identify a destination access node. In the same field of endeavor, Mctiffin discloses a method and system for translating the CDMA code into a packet address for using to route the packet via ATM network (Fig 3). However, Focarile and Mctiffin fail to disclose a method and system for using orthogonal code in CDMA system. In the same field of endeavor, Natali discloses a method and system for mapping the address with orthogonal code (See Abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply a method and system for mapping an orthogonal code to address as disclosed by Natali into a method and system for mapping a CDMA code with a packet address as disclosed by Mctiffin into the system of Focarile. The motivation would have been to improve the throughput of the wireless system and provide a high signal strength is higher, data transmission rates, low the costs of sending data messages and equipment.

6. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mctiffin (USP 5406550) in view of Natali (USP 5910777).

Mctiffin discloses a method for code division switching at a destination access radio port of a terrestrial wireless network, where said access radio port interfaces with a plurality of terminal users located within one or more microport cells (Fig 1), comprising the steps of receiving a packet switched transmission signal from an access node via a network at an originating access port of a terrestrial wireless network (Fig 1, Ref 17); translating a packet address into a code sequence (Fig 2, Ref 8); respreading said code sequence into a transmission signal at an intermediate frequency and upconverting said respread transmission signal for transmitting over the air (Fig 1, Ref 1, is CDMA system) to a destination terminal user (Fig 1, Ref 19). However, Mctiffin fails to disclose a method and system for using orthogonal code in CDMA system. In the same field of endeavor, Natali discloses a method and system for mapping the address with orthogonal code (See Abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply a method and system for mapping an orthogonal code to address as disclosed by Natali into a method and system of Mctiffin. The motivation would have been to improve the throughput of the wireless system and provide a high signal strength is higher, data transmission rates, low the costs of sending data messages and equipment.

7. Claims 53 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Focarlise (USP 5434854) in view of Gilhousen (USP 5751761), McTiffin (USP 546550) and Natali (USP 5910777).

Focarlise discloses a method for code division switching used for interfacing a terrestrial wireless network with a network (Fig 4), where said wireless network interfaces with a plurality of wireless terminal users, comprising the steps of downconverting, at the originating access radio port, to an intermediate frequency; despreading, at an originating access radio port, the transmission signal by orthogonal code assignments to recover microport groupings and route said microport groupings accordingly (Fig 1 implicitly discloses this feature in the CDMA system, See col. 8, lines 10-62 discloses a method and system for receiving a cdma signal at the base station and despreading the signal into packet for transmitting via ATM network to another base station which respreads the signal into CDMA signal for transmitting to the mobile). However, Focarlise fails to disclose spreading a transmission signal by a PN-code assigned to an intended receiving port; inserting an identifier of a few bits for identifying a user; spreading payload data by an orthogonal code; spreading the orthogonal spread payload data signal by the PN-code identifying the user with payload data; forwarding, at the originating terminal, said PN-code spread transmission signal and said twice spread payload data signal to an access radio port; translating, at the originating access radio port, the orthogonal code assignments to a packet address identifying a destination microport augmented to identify a destination access node; depositing, at the originating access radio port, said despreading transmission signal into a packet with said packet address; transmitting, from the originating access radio port, said packet to an originating access node for further transmission over a network; receiving, at a destination access radio port, said packet switched transmission signal from a destination access node via a core network; translating a packet address into an orthogonal code sequence; respreading said orthogonal code sequence into a transmission signal at an intermediate frequency; upconverting

said respread transmission signal; and transmitting said respread upconverted transmission signal over the air to a destination terminal user. In the same field of endeavor, Gilhousen discloses spreading a transmission signal by a PN-code assigned to an intended receiving port (Fig 11, Ref 614 and 616 for transmitting spreading signal to a base station); inserting an identifier of a few bits for identifying a user (Fig 11, Ref 608); spreading payload data by an orthogonal code (Fig 11, Ref 604); spreading the orthogonal spread payload data signal by the PN-code identifying the user with payload data (Fig 11, Ref 606); forwarding, at the originating terminal, said PN-code spread transmission signal and said twice spread payload data signal to an access radio port (Fig 11, Ref 614 and 616) and forming a preamble which is prepended to a packet (col. 36, lines 35-46). However, Focarile and Gilhousen fail to disclose translating, at the originating access radio port, the orthogonal code assignments to a packet address identifying a destination microport augmented to identify a destination access node; depositing, at the originating access radio port, said despread transmission signal into a packet with said packet address; transmitting, from the originating access radio port, said packet to an originating access node for further transmission over a network; receiving, at a destination access radio port, said packet switched transmission signal from a destination access node via a core network; translating a packet address into an orthogonal code sequence; respreading said orthogonal code sequence into a transmission signal at an intermediate frequency; upconverting said respread transmission signal; and transmitting said respread upconverted transmission signal over the air to a destination terminal user. In the same field of endeavor, McTiffin discloses a method and system for originating access radio port, the code assignments to a packet address identifying a destination microport augmented to identify a destination access node; depositing, at the originating access radio port, said despread

transmission signal into a packet with said packet address; transmitting, from the originating access radio port, said packet to an originating access node for further transmission over a network (Figs 2, 3, Ref 3 for despreading the CDMA signal and using the CDMA code for retrieving packet address for transmitting via ATM network, Fig 1, Ref 16); receiving, at a destination access radio port, said packet switched transmission signal from a destination access node via a core network; translating a packet address into an orthogonal code sequence; respreading said code sequence into a transmission signal at an intermediate frequency; upconverting said respread transmission signal; and transmitting said respread upconverted transmission signal over the air to a destination terminal user (receiving ATM signal at Ref 17 of Fig 1, mapping packet address with cdma code for using to spread the signal and upconverting for transmitting via CDMA network to a terminal which despreads the CDMA signal). However, Focarile, McTiffin and Gilhousen fail to disclose a method and system for using orthogonal code in CDMA system. In the same field of endeavor, Natali discloses a method and system for mapping the address with orthogonal code (See Abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply a method and system for mapping an orthogonal code to address as disclosed by Natali into a method and system for mapping a CDMA code with a packet address as disclosed by Mctiffin into the system of Gilhousen which discloses a CDMA signal wherein the data are spreaded twice and inserting mobile ID into the teaching of Focarile's system. The motivation would have been to improve the throughput of the wireless system and provide a high signal strength is higher, data transmission rates, low the costs of sending data messages and equipment.

8. Claims 54 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Focarlise (USP 5434854) in view of Gilhousen (USP 5751761), McTiffin (USP 546550) and Natali (USP 5910777) and Erving (USP 5805579).

Focarlise discloses a method for code division switching used for interfacing a terrestrial wireless network with a core network, where said wireless network interfaces with a plurality of wireless terminal users, comprising the steps of downconverting, at the originating access radio port, to an intermediate frequency; depositing, at the originating access radio port, said despread transmission signal into a packet with said packet address; transmitting, from the originating access radio port, said packet to an originating access node for further transmission over a network (Fig 1 implicitly discloses this feature in the CDMA system, See col. 8, lines 10-62 discloses a method and system for receiving a cdma signal at the base station and despreading the signal into packet for transmitting via ATM network to another base station which respreads the signal into CDMA signal for transmitting to the mobile). However, Forcarlise fails to discloses spreading a transmission signal by a PN-code assigned to an intended receiving port; inserting an identifier of a few bits for identifying a user; spreading payload data by an orthogonal code; spreading the orthogonal spread payload data signal by the PN-code identifying the user with payload data; forwarding, at the originating terminal, said PN-code spread transmission signal and said twice spread payload data signal to an access radio port; despreading, at an originating access radio port, the transmission signal by orthogonal code assignments to recover microport groupings and route said microport groupings accordingly; directing the transmission signal within the same access node according to the orthogonal code assignments; receiving, at a destination access radio port, said packet switched transmission

signal from a destination access node via a core network; translating a packet address into an orthogonal code sequence; respreading said orthogonal code sequence into a transmission signal at an intermediate frequency; upconverting said respread transmission signal; and transmitting said respread upconverted transmission signal over the air to a destination terminal user. In the same field of endeavor, Gilhousen discloses spreading a transmission signal by a PN-code assigned to an intended receiving port (Fig 11, Ref 614 and 616 for transmitting spreading signal to a base station); inserting an identifier of a few bits for identifying a user (Fig 11, Ref 608); spreading payload data by an orthogonal code (Fig 11, Ref 604); spreading the orthogonal spread payload data signal by the PN-code identifying the user with payload data (Fig 11, Ref 606); forwarding, at the originating terminal, said PN-code spread transmission signal and said twice spread payload data signal to an access radio port (Fig 11, Ref 614 and 616) and forming a preamble which is prepended to a packet (col. 36, lines 35-46). However, Focarlie and Gilhousen fail to disclose despreading, at an originating access radio port, the transmission signal by orthogonal code assignments to recover microport groupings and route said microport groupings accordingly; directing the transmission signal within the same access node according to the orthogonal code assignments; receiving, at a destination access radio port, said packet switched transmission signal from a destination access node via a core network; translating a packet address into an orthogonal code sequence; respreading said orthogonal code sequence into a transmission signal at an intermediate frequency; upconverting said respread transmission signal; and transmitting said respread upconverted transmission signal over the air to a destination terminal user. In the same field of endeavor, Erving discloses despreading the IF transmission signal by orthogonal code that assigned the recover microport groupings and route

the microport grouping accordingly, directing the transmission signal within the same access node according to the orthogonal code assignment (Col. 1, line 64 to col. 2, line 18). However, Focarlie, Erving and Gilhousen fail to disclose receiving, at a destination access radio port, said packet switched transmission signal from a destination access node via a core network; translating a packet address into an orthogonal code sequence; respreading said orthogonal code sequence into a transmission signal at an intermediate frequency; upconverting said respread transmission signal; and transmitting said respread upconverted transmission signal over the air to a destination terminal user. In the same field of endeavor, McTiffin discloses a method and system for originating access radio port, the code assignments to a packet address identifying a destination microport augmented to identify a destination access node; depositing, at the originating access radio port, said despread transmission signal into a packet with said packet address; transmitting, from the originating access radio port, said packet to an originating access node for further transmission over a network (Figs 2, 3, Ref 3 for despreading the CDMA signal and using the CDMA code for retrieving packet address for transmitting via ATM network, Fig 1, Ref 16); receiving, at a destination access radio port, said packet switched transmission signal from a destination access node via a core network; translating a packet address into an orthogonal code sequence; respreading said code sequence into a transmission signal at an intermediate frequency; upconverting said respread transmission signal; and transmitting said respread upconverted transmission signal over the air to a destination terminal user (receiving ATM signal at Ref 17 of Fig 1, mapping packet address with cdma code for using to spread the signal and upconverting for transmitting via CDMA network to a terminal which despreads the CDMA signal). However, Focarile, Erving, McTiffin and Gilhousen fail to disclose a method

and system for using orthogonal code in CDMA system. In the same field of endeavor, Natali discloses a method and system for mapping the address with orthogonal code (See Abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply a method and system for mapping an orthogonal code to address as disclosed by Natali into a method and system for mapping a CDMA code with a packet address as disclosed by Mctiffin into the system of Gilhousen which discloses a CDMA signal wherein the data are spreaded twice and inserting mobile ID and method and system of switching the signal based on the code in the same access node as disclosed by Erving into the teaching of Focarile's system. The motivation would have been to improve the throughput of the wireless system and provide a high signal strength is higher, data transmission rates, low the costs of sending data messages and equipment.

Response to Arguments

9. Applicant's arguments filed 6/15/06 have been fully considered but they are not persuasive.

In response to page 11, the applicant states that Gilhousen fails to disclose the claimed invention as (1) the order of the steps such as the second step must follow the first step; the third step must follow the second etc ... and (2) PN generators that generates the assigned PN codes for the intended receiving port. In response to applicant's argument (1) that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the steps in the claim must happen in order of first, second and third etc) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification,

limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). With respect to (2), Gilhousen discloses the generators 614 and 616 for generating a PN codes for using to spread the transmission signal to the base station which used the same PN code to despread the received signal. So, the PN codes assigned to the intended receiving port "base station" in order to allow the base station to despread the signal as stated in claims 32-35 and 38-42.

10. In response to applicant's argument that Erving and Natali are nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Erving discloses how to module and demodulate a CDMA signal and Natali discloses a method for mapping mobile address with orthogonal code wherein these function used to process the incoming or outgoing signal in CDMA environment. Therefore, it would have been obvious to one of ordinary skill in the art to implement these functions into a terrestrial network. The motivation would have been to provide a high signal strength is higher, data transmission rates, low the costs of sending data messages and equipment as disclosed in the claims.

In response to pages 12-14, the applicant states Focarlie criticized Gilhousen. Therefore, the teaching of Focarlie and Gilhousen can not be combined together. In reply, Gilhousen discloses a method and system for conveying a signal between the users, base stations and PSTN and Focarlie discloses a method and system for conveying a signal in both PSTN and packet network. Since, Focarlie's method and system for transmitting signal via packet network has the

advantages over Gilhousen such as improving voice quality between the mobiles and reducing the cost of the long distance. However, Focarlie does not disclose how to modulate a voice signal into a CDMA signal and demodulate a CDMA signal into a voice signal in details. Therefore, the examiner applies the teaching of Gilhousen into Focarlie because Focarlie does not criticized a method and system for modulating a voice signal into a CDMA signal and demodulating a CDMA signal into a voice signal in details. So, the references do not teach away from each other.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven HD Nguyen whose telephone number is (571) 272-3159. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (571) 272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Steven HD Nguyen
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Art Unit 2616
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